

REMARKS

Claims 1 and 2 were pending in the application. Claims 1 has been amended. Claim 2 has been cancelled. Claim 1 is therefore pending and presented for review. Favorable reconsideration and allowance of this application is respectfully requested in light of the foregoing amendments and the remarks that follow.

1. Rejection of Claims Under 35 U.S.C. § 112

Claims 1 and 2 stand rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. Specifically, the Examiner contends that the claims contain subject matter which was not described in the specification in such a way to enable one skilled in the art to practice the invention. The Examiner contends that there is nothing unique about the spring urging member, or the construction of the case, which contains the coil spring. As a result, the Examiner states that it is unclear how applicants' coil spring can exhibit the non-linear properties and the prior art (such as Yamada) does not.

Claim 2 has now been canceled, thereby obviating that rejection. In regard to the recited subject matter of claim 1, applicants concede that there is nothing unique about the **spring urging member**, as claimed. Applicants merely recite a generic spring urging member in the pending claim and applicants have yet to maintain any other position.

However, in regard to the construction of the spring case, Applicants again note that it is the specific dimensions of the spring case recited in the claim that deforms the linear spring in such a way that non-linear spring qualities are obtained. Specifically, claim 1 recites that a

distance between the right and left side plates of the coil spring case is set larger than an outer diameter of the coil spring, and a distance between the back and front side plates of the spring case is set about 1.5 to 2 times larger than the diameter of the coil spring when the coil spring is not compressed. As a result, the linear coil spring is deformed in an S curve and *a non-linear spring property* is obtained when the coil spring is urged by the spring urging member. Thus, as a result of the unique configuration of the spring case, a non-linear spring property can be obtained from a linear spring. (See e.g., page 4, line 23 - page 5, line 9; page 8, lines 4-13; and Figs. 7-13).

Applicants are somewhat surprised at the Examiner's new grounds for rejection. In four previous office actions in which similar claims were presented, the Examiner did not once question whether the subject matter for the claims was enabled. Regardless, applicants respectfully traverse the Examiner's enablement rejection of claim 1.

As discussed in greater detail below (in those sections dealing with the prior art rejections) and explained in previous responses, contrary to the Examiner's position, none of the cited prior art references disclose the recited spring device. Furthermore, even if the prior art disclosed similar spring devices, which applicant maintains it does not, it is not clear how such disclosure would support the Examiner's enablement rejection. If similar spring cases were to exist in the prior art, it seems more likely that one skilled in the art could use those teachings to arrive at applicants' invention, thereby further enabling applicants' invention. As such, the Examiner's reliance on the cited prior art, as opposed to applicant's disclosure (or alleged lack thereof), to support an enablement rejection appears to be in error.

The standard for determining whether the specification meets the enablement requirement is whether one reasonably skilled in the art can make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. See *United States vs. Telectronics, Inc.*, 857 F.2d 778, 785, 8 USPQ.2d 1217, 1223 (Fed. Cir. 1988). The determination that undue experimentation would have been needed to make and use the claimed invention requires weighing the breadth of the claims, the nature of the invention, the state of the prior art, the level of the one of ordinary skill, the level of predictability in the art, the amount of direction provided by the inventor, the existence of working examples, and the quantity of experimentation needed to make or use the invention based on the contents of the disclosure (MPEP 2164.01a). In order to make a rejection for lack of enablement, the examiner has the initial burden to establish a reasonable basis to question the enablement provided by the claimed invention (MPEP 2164.04). The Examiner has not satisfied his initial burden to provide a reasonable basis to question the enablement provided by the claimed invention.

As noted above, applicants' specification provides ample support for the claimed spring device. (See e.g. page 4, line 23 - page 5, line 9; page 8, lines 4-13; and Figs. 7-13). The recited dimensions of the coil spring case in relation to the linear spring are both described and shown applicants' specification and clearly recited in the claims. It is unclear how the Examiner could maintain a position that the recited device is not enabled by applicants' specification. As noted above, it is the recited dimensions that allow a linear spring to exhibit non-linear spring properties.

In view of the cited portions of the specification and the above arguments, applicants request reconsideration and withdrawal of the rejections under 35 USC §112. However, should the Examiner maintain his enablement rejection, applicants would be willing to submit a declaration of one skilled in the art that the recited invention is enabled.

2. Rejection of Claims Under 35 U.S.C. § 103(a)

Claims 1 and 2 stand rejected under 35 USC 103(a) as being obvious over Yamada U.S. Patent No. 3,856,285 in view of Watanabe U.S. Patent No. 6,193,225 and/or Komura JP 9-21440. Applicants respectfully traverse this rejection because, *inter alia*, there is no teaching or suggestion to combine the Yamada patent with the Watanabe or Komura patents to produce a spring device of the claimed type. Furthermore, even if the references were combined, the invention would not result. Therefore, reconsideration is in order and is respectfully requested.

a. Recapitulation of the Invention¹

The invention relates to a spring device that includes a coil spring case formed of right, left, back and front side plates, a spring receiving plate, a coil spring having *a linear spring property*, and a spring urging member for urging the coil spring into the coil spring case. Preferably, the distance between the right and left side plates of the spring case are set slightly larger than an outer diameter of the coil spring. The distance between the back and front side plates of the spring case is set about 1.5 to 2 larger than the outer diameter of the coil spring and

¹ This Section 2a is intended to provide the Examiner with some background information on the state of the art and applicants' contribution to it. It is *not* intended to distinguish specific claims from the prior art. That task is performed in Section 2b below.

the coil spring is brought into contact with the back and front side plates of the coil spring case at a curved portions thereof when the spring is compressed. The length of the spring case is set smaller than a free length of the coil spring, such that the coil spring is deformed and *a non-linear spring property* is obtained when the coil spring is urged by the spring urging member into an *S curve*. Thus, as a result of the unique configuration of the spring case, a non-linear spring property can be obtained from a linear spring.

b. Traversal of Rejections Under 35 U.S.C. § 103(a)

Claim 1 recites a spring device that includes a coil spring case formed of right, left, back and front side plates, a spring receiving plate, a linear coil spring, and a spring urging member inserted into the coil spring case through an opening of the coil spring case for compressing the coil spring in the coil spring case so that the coil spring is deformed along an **S curve** so as to have a non-linear spring property. Claim 1 further states that the distance between the right and left side plates of the spring case is larger than an outer diameter of the coil spring, and the distance between the back and front side plates of the spring case is set **1.5 to 2 times larger than the diameter of the coil spring**. Claim 1 also recites that the coil spring is brought into contact with the back and front side plates of the coil spring case at a curved portions thereof.

As previously noted and acknowledged by the Examiner, the Yamada patent does not disclose the spring device as recited in amended claim 1. The Examiner alleges that “Yamada shows a device similar to that of the elected embodiment.” Applicants again respectfully disagree. As noted, Yamada merely shows a shock absorbing device for an automobile that has a

casing. Yamada does not disclose or teach that the spring 11, 35 or 45 **is compressed** within a spring case having a distance between the right and left side plates being set larger than an outer diameter of the coil spring, a distance between the back and front side plates of the spring case being set 1.5 to 2 times larger than the outer diameter of the coil spring, and a coil spring brought into contact with the back and front side plates of the coil spring case at a curved portion of an S curve. Nor does it suggest a coil spring disposed in a case so as to produce a *non-linear* spring property as claimed. Yamada instead merely discloses a non-compressed linear spring within a casing.

In response to the applicants arguments noted above, the Examiner has maintains his position that Yamada teaches a *similar* case construction and further notes that Yamada teaches that the case may be varied, citing to figures 1, 9 and 14 for support. Applicants respectfully disagree with this position. The modifications described and illustrated in Yamada are not to the **dimensions** of the spring case and are certainly not included to alter the already **non-linear** properties of the spring. The embodiment illustrated in figure 9, for example, includes the addition of several features such as annular groove 31b and closed end 31a to that previously disclosed. There is no disclosure or teaching of any changes to the **dimensions** of the spring case in order to alter the spring characteristics. Likewise, Fig. 14 illustrates the addition of an auxiliary coil spring 45 interposed between the closed end 31a of the casing 31 and the inner end of the inner piston rod 33c to cooperate with the main coil spring 35 to bring the piston and piston rod assembly back to its original position after an impact. Once again, there is no disclosure of any

changes or alterations to the **dimensions of the spring case** in order to alter the spring characteristics. As such, applicants respectfully disagree with the Examiner's position that Yamada teaches or suggests modifying the dimension of its spring case to alter the spring characteristics.

In regard to the Examiner's comments on Komura JP 9-21440, Applicants again note that Komura merely discloses the use of three distinct linear coil springs A, B, and C. No non-linear spring properties are obtained by altering the dimensions of the case. Furthermore, Komura is concerned with preventing lateral deformation of a coil spring and as such teaches away from applicants' invention. (See abstract). It is believed that the spring case illustrated in Fig. 3 and referenced by the Examiner is an example of the prior art of which Komura is an improvement. Regardless, the spring illustrated in Fig. 3 is not deformed in an S-curve as claimed.

In the office action, the Examiner maintains his official notice of the fact that springs with linear and non-linear properties are well-known in the art and suggests that Watanabe and Komura et al. provides a general teaching of this idea. Applicants' have conceded that springs with linear and non-linear properties are well-known in the art. However, applicants maintain that the Examiner is using Official Notice for something that is improper. Specifically, while springs with linear and non-linear properties are known in the art, the Examiner's suggestion that the claimed dimensional relationship of the spring case to the spring is obvious is not proper. In addition, even though non-linear springs are known *per se*, the Examiner has not pointed to any motivation in the references for modifying or substituting the springs of the cited references.

In the previous response, applicants requested that the Examiner either 1) submit documentary evidence in support of his position suggesting modifying the linear spring of Yamada with the Watanabe or Komura references or 2) submit a declaration averring that he has personally seen disclosures teaching the interchangeability of linear and non-linear springs. In response to this request, the Examiner again relies on the teaching of Watanabe and Komura. The Examiner further notes that the newly cited Tachikawa et al. reference teaches that a linear spring (as opposed to Watanabe's non-linear spring) can be used in a car suspension and as such it supports his position regarding the interchangeability of linear and non-linear springs.

The existence of Tachikawa's linear spring does not support the Examiner's position that linear and non-linear springs may be used interchangeably. Tachikawa merely confirms the fact that springs with linear and non-linear properties are well-known in the art. Applicants have conceded this point throughout the prosecution of this case. Applicants maintain their challenge to the Examiner's taking of official notice because the Examiner has not provided any reference or teaching of the substitution of a linear spring for a non-linear spring in a particular application. Applicants do not believe the Examiner will find such a teaching because non-linear and linear springs have inherently different spring characteristics and the substitution of one for another will inevitably significantly alter the particular application.

Neither Watanabe or Komura remedy Yamada's failure to disclose a spring device having the claimed casing and a linear coil spring that exhibits non-linear spring properties. Watanabe merely discloses that non-linear spring properties can be achieved in a coil spring by forming the

coil spring to have three unique cross sections. Note in this regard that the embodiment of the coil spring shown in Fig. 4 of Watanabe is merely the prior art coil spring identified in the present application in Fig. 3 and discussed on page 3 of the present application. Likewise, Komura JP 9-21440 merely discloses the use of three distinct linear coil springs A, B, and C. (See Fig. 1) No non-linear spring properties are obtained.

In addition, neither Watanabe nor Komura suggests that a non-linear coil spring can be formed by placing a linear coil spring within a case having the claimed dimensions. Nor, as noted above, is there any suggestion to place Watanabe's or Komura's spring in Yamada's housing. Watanabe's spring is designed for use as suspension spring, which mounts between the automobile's suspension and frame as generally seen in Figure 8 of Watanabe. A shock absorber is used *in addition to* a suspension spring to form a classic mass-spring-damper system. Hence, at most, Watanabe would have suggested using its suspension spring in combination with Yamada's spring-biased shock absorber on the same vehicle. As noted above, there is no disclosure of achieving non-linear spring properties in Komura et al.

In addition, even if one were to replace Yamada's coil spring with either Watanabe's non-linear spring or Komura's linear spring, there is no suggestion of setting the claimed proportional relationships between the spring and the case. Moreover, since Watanabe's spring is *already* non-linear, one of ordinary skill in the art would not have been motivated to take measures with respect to that spring that would render another, linear, spring non-linear. Likewise, Komura is concerned with preventing lateral deformation of a spring so any motivation to combine Komura

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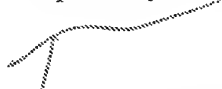
with Wantanabe is also absent. To conclude otherwise would be to pick and choose amongst the teachings of the prior art, using applicants' own disclosure as a template or mosaic to latch on to those teachings that support the Examiner's position while ignoring those that do not.

For at least these reasons, the references alone or in combination fail to teach or suggest the spring device of claim 1.

Conclusion

For the forgoing reasons, claim 1 is believed to be in *prima facie* condition for allowance. Should the Examiner have any remaining questions that the attending to of which would expedite such action, he is invited to contact the undersigned at the telephone number appearing below. No fee is believed to be payable with this communication. Nevertheless, should the Examiner consider any other fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

Respectfully submitted,



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